MENTARY AFFAIRS (SHRI P. R. KUMARAMANGALAM) : (a) and (b) Yes, Sir, Thorium in its natural form does not contain any Uranium-233. However, when irradiated in a nuclear reactor, part of Thorium gets converted into Uranium-233 which can be recovered.

(c) to (e) Research and Development towards utilisation of Thorium for energy production is being actively pursued in the Department of Atomic Energy. A small reactor based on Uranium-233 has beew built by the Bhabha Atomic Research Centre. The initial core of the first unit of Kakrapar Atomic Power Project has been loaded with Thorium bundles to achieve power flattening.

Achievements of the Atomic Research Institute

493. SHRI TINDIVANAM G. VENKATRAMAN : Will the PRIME MINISTER be pleased to state :

(a) what have been the consolidated achievements of various research institutes of Atomic Energy in the country; and

(b) what are the norms fixed for selection of scientists in Atomic Research Institutes and number of the Scientists of foreign countries employed in these research institutions' ?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY, DEPARTMENT OF ELECTRONICS AND DEPARTMENT OF OCEAN DEVELOPMENT AND MINISTER OF STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS (SHRI P. R. KUMARAMANGALAM) : (a) From the early 50s with the setting up of iAtomie Energy Establishment, Trombay, India has been able to develop the full fuel cycle. The Atomic Research Institutes have developed indigenous technology from stage of prospecting for uranium * and thorium ores, mining of the ores, fabrication of fuel, design, construction and operation of power reactors, reprocessing of spent fael and waste disposal. A fast breeder bu*t* reactor has been commissioned and is being operated. Several use of isotopes and nuclear technology in agriculture, medicine and industry have also been developed. Apart from these, indigenous technologies, have been developed in high tech and frontier areas of science, such as lasers, accelerators, high temperar Hire superconductivity, cryogenics, robotics, electronics, computer sciences, gene-lie engineering and sodium technology.. A number of technologies in nuclear and other areas have been transferred to private industry and public sector undertakings.

(b) Scientists and Engineers are selected every year from a large number of First Class M. Sc. Degree holders' with not less than 60% marks and[1] Graduate Engineers with not less than 65% marks after a written test and *viva-voce* and given one year orientation course or in-plant training in. nuclear sciences and engineering prior to their appointment. From, the year 1991-92, M. Tech. Graduates in selected specialised areas are being recruited for placement in various divisions. Some exceptional Ph.Ds. from Indian and Foreign Universities are also recruited' after careful consideration *on* a case-to-case basis. No. scientist from any foreign country is emp'oyeu in any of the research institutes under the Department of Atomic Energy.

LSI Spies in Bare, HP and BP

494. SHRI VIREN J- SHAH : Will the PRIME MINISTER be pleased to state :

\a.t whether Government's attention lias bean drawn, to a report which appeared in the Sunday Observer of October 25, 1992 under the caption "Inter-services Intelligence Agency of Pakistan (ISI) Spies in BARC, HP and BP";

(b) if so, what are the details in this regard: and

(c) what preventive action Government have taken to check the objectionable activities of ISI and safeguard our vital atomic installations ?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY, DEPARTMENT OF ELECTRONICS AND DEPARTMENT OF

OCEAN DEVELOPMENT AND MINISTER OF STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS (SHRI P. R. KUMARAMANGALAM) : (a) yes, Sir.

(b) and. (c) The Government has not found anything, to establish the presence of ISI *spies in* BARC, HP or BP, and reference to the briefing by Central Bureau of Investigation in the above news report is not correct. Government is fully conscious of the need for constant vigilance in respect of vital Atomic Energy installations and security measures are already in vogue-far protecting them.

Alternative Arrangement for Atomic Power Energy Generation Programme

49* SHRI VITHALRAO MADHAVRAO YADHAV:

DR. ABRAR AHMED :

Will the PRIME MINISTER be pleased to state :

(a) whether there is any alternative arrangement with Government to keep its atomic power energy generation prch-gramme as per the schedule planning without the. help of erstwhile Soviet Union; if so, the details thereof: and

(b), whether there is any new atomic power plant, being set up in Maharashtra ?

THE MINISTER OF STATE IN *THE* MINISTRY OF SCIENCE AND TECHNOLOGY, DEPARTMENT OF ELECTRONICS AND DEPARTMENT OF OCEAN DEVELOPMENT AND MINISTER OF STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS (SHRI P. R. KUMARAMANGALAM) : (a) The first stage Indian nuclear power programme is based on Pressurised Heavy Water Reactors (PHWRs) of 220 MWe and 500 MWe unit sizes. The design, manufacture, construction, commissioning and operation of such reactors is purely indigenous in nature For the 2 x 1080 MW Kudan-kulam Power Project, Soviet assistance was expected; but there are uncertainties on account of recent developments in the erstwhile Soviet Union. One of the alternatives for implementing the project is setting, up of 500 MW PHWR units with indigenous technology with participation of the concerned State Governments.

(.b) Sanction has been given to the addition of two units of 500 MWe at the Tarapur Atomic Power Station in Maha^ rashtra State.

Non-Availability of Vitamin C

496. SHRI KRISHAN LAL SHARMA:
SHRI SATISH PRADHAN :

Will the PRIME MINISTER be pleaseu to state :

(a) whether Government are aware of the artificial scarcity- and non-availability of Vitamin C in the market and consequent exploitation of consumers by traders and the main manufacturers of Vitamin C;

(b) if so, the details of the demand and production capacity and actual production of Vitamin C during last 2 years, month'wise, by main producers, producer-wise;

(c) the reasons for shortfall and the steps taken/proposed to be taken in the matter; and

(d) whether Government are aware of carteling by main manufacturers of Vitamin C, and if so, the details of steps taken/proposed to be taken to ensure availibility of Vitamin C at reasonable prices ?

THE MINISTER OF STATE IN THE MINISTRY OF CHEMICALS AND FERTILIZERS (SHRI CHINTA MOHAN): (a) and (c) There are two producers of Vitamin C bulk drug in the country viz. M/s. layant Vitamins Ltd. and Ambalal Sarabhai Enterprises Ltd. Supply of bulk Vitamin C had got dislocated due to shortfall in production of the two units particularly M/s. jayant. Vitamins Ltd. between January to June, 1992. As per information available from